

00 Safety information for working on vehicles with automatic engine start-stop function (MSA)



Warning!

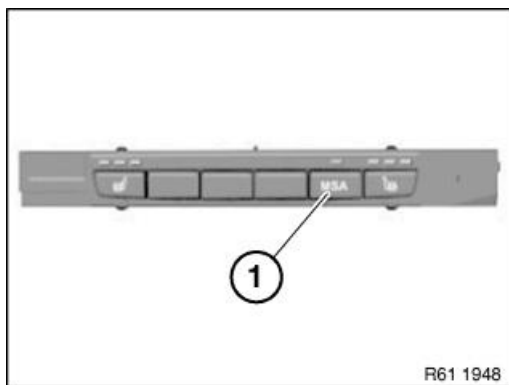
If the engine hood/bonnet contact is pulled upwards (workshop mode), the information "switch closed" is output. The automatic engine start-stop function is active.

An automatic engine start is possible.

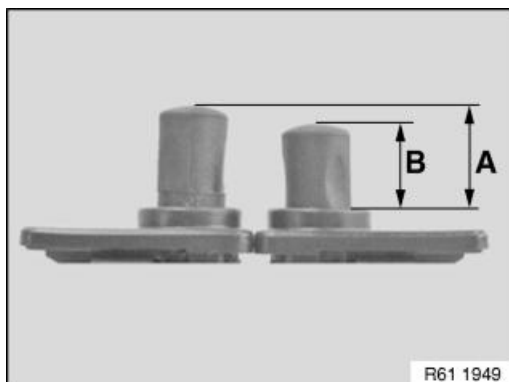
Observe safety precautions when working on MSA vehicles.

Before carrying out practical work on the engine, always ensure that the MSA functionality is deactivated so as to prevent automatic engine starting while work is being carried out in the engine compartment.

MSA function is deactivated by:



- Deactivate MSA by means of button (1) in passenger compartment
- Open seat belt buckle and driver's door



- Open engine bonnet/hood and ensure that engine hood/bonnet contact is not in workshop mode
 - Workshop mode
 $A = 10 \text{ mm}$
 - Basic setting (engine hood/bonnet open)
 $B = 7 \text{ mm}$

To make sure that the engine hood/bonnet contact is at the basic setting, if necessary press the hood/bonnet contact up to the limit position before starting work and slowly release.



When working with diagnosis tools:

- Observe instructions in diagnosis tool



Note:

For further information on automatic engine start-stop function (MSA):

- Refer to the Service Information (bulletin) (for manual transmissions) [Service Information \(bulletin\) 61 01 07 335](#)
- Refer to the Service Information (bulletin) (for automatic transmissions or twin-clutch gearboxes) [Service Information \(bulletin\) 61 01 10 629](#)



This operation is described in section on:

[Replacing cover bowl](#)

67 11 530 Removing and installing/replacing actuator drive for rear left or right central locking



This operation is described in:

["Removing door lock for rear door."](#)

67 11 510 Removing and installing/replacing servodrive for front left or right door locking mechanism



Note:

Servodrive for door locking mechanism is integrated in door lock in front door.

Procedure is described in the document "[Door lock in front door ...](#)".



This operation is described in:

"Removing [rear lid lock](#)"



Note:

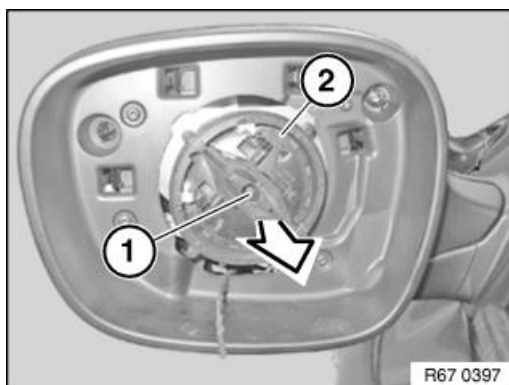
From version 07/2012 (identifiable from side repeater in exterior mirror) the electric motor for the electrically adjustable exterior mirror is not available as a separate component.

[Exterior mirror](#) must be completely replaced.

Up to version 07/2012, repair work is described below.

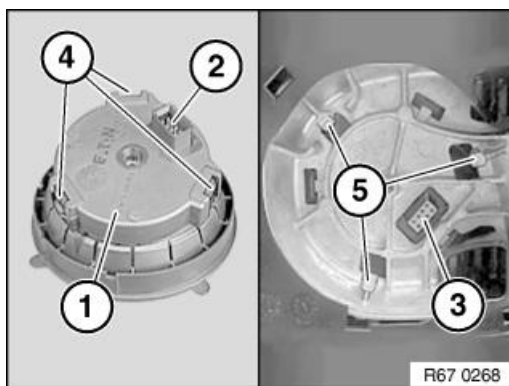
Necessary preliminary work:

- Remove [mirror glass](#) for inside mirror



Release screw (1).

Remove drive for electrically operated exterior mirror (2) in direction of arrow from mirror housing (3).



Installation note:

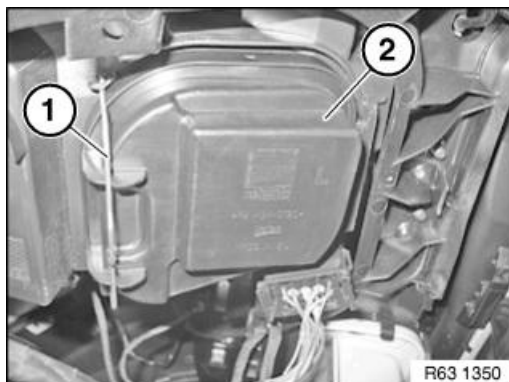
Fit drive for electrically operated exterior mirror (1) so that pin housing (2) engages exactly in connector housing (3) and fixtures (4) slide into guides (5).



Warning!

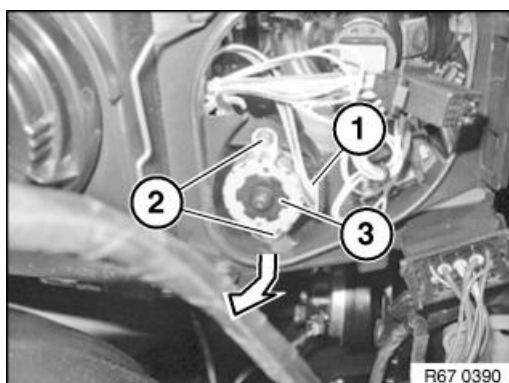
Version with xenon headlights: Danger to life due to high voltage!
Therefore disconnect all components from voltage supply before removal.

Work on the entire xenon lighting system (ignition unit, control unit and lamp) may only be carried out by specialist personnel.



Unlock retainer clip (1) and remove cover (2).

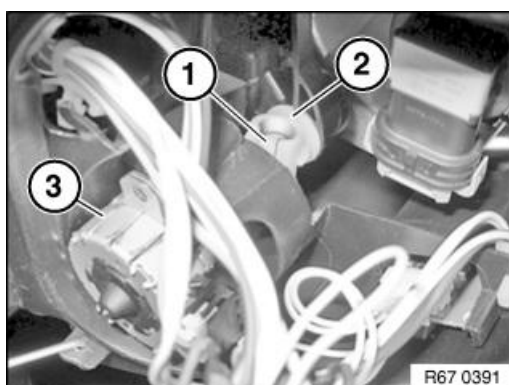
If necessary, unlock and remove plug-in connection in the back (electronic box adaptive forward light).



Unfasten plug connection (1) and disconnect.

Unfasten screws (2).

Unclip headlight vertical aim adjuster (3) in direction of arrow.



Installation note:

Insert ball head (1) into mounting (2).

Check that headlight vertical aim adjuster (3) is securely seated.



After installation:

- Adjust [headlight](#)

67 16 015
adjuster

Removing and installing/replacing right headlight vertical aim



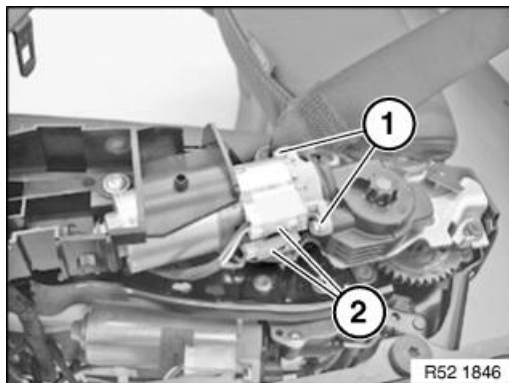
Operation is described in:

[Removing and installing left headlight vertical aim adjuster](#)



Necessary preliminary tasks:

- Remove [outer cover](#)



Unlock plug connections (2) and disconnect.

Release screws (1).

Remove drive for backrest angle adjustment from flange.

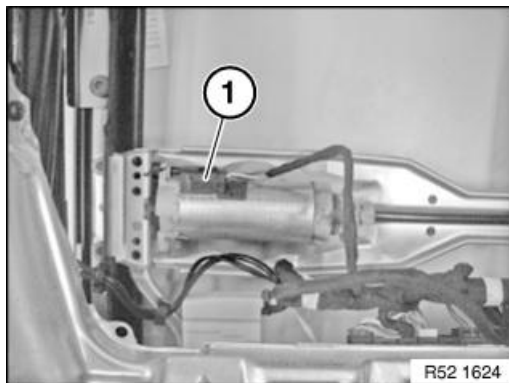
Installation:

Make sure drive shaft is correctly seated in gearbox.

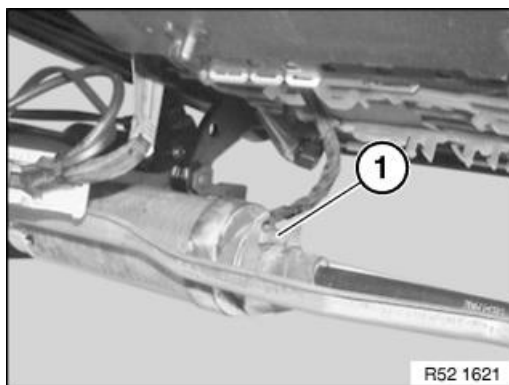


Necessary preliminary tasks:

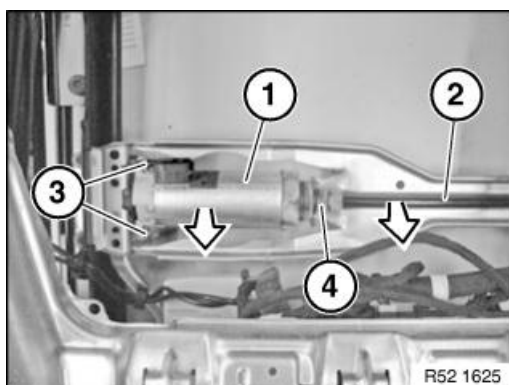
- Remove [front seat](#)



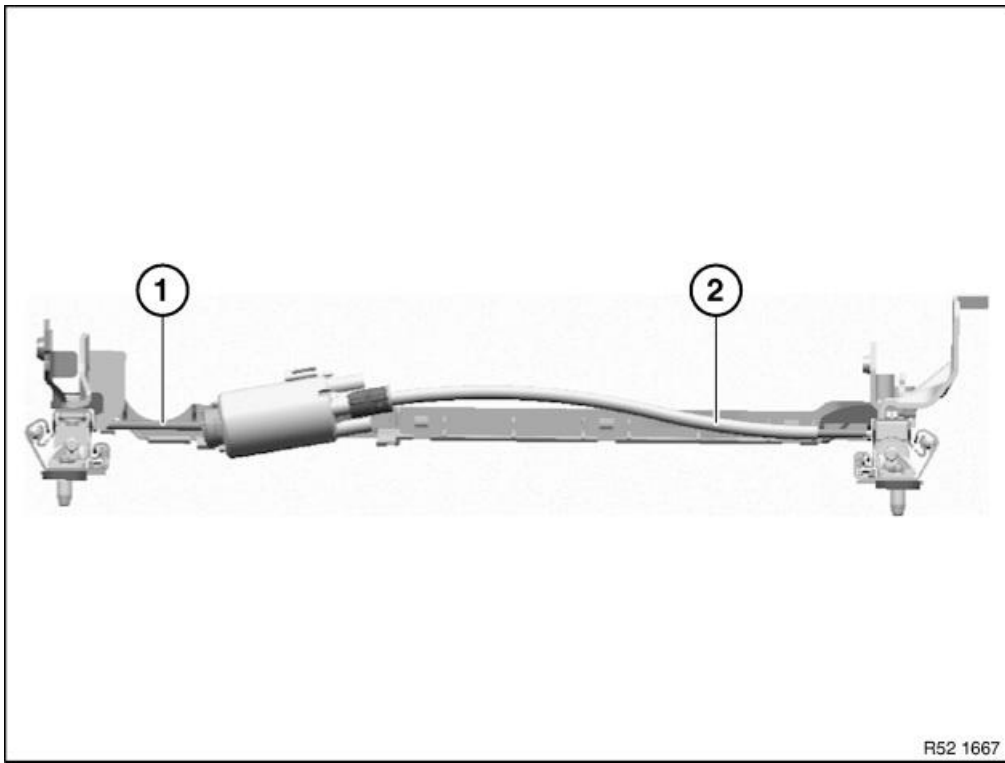
Unfasten plug connection (1) and disconnect.



Bend metal tab (1) open.



Lift drive (1) and flex shaft (2) out of guide (4) in direction of arrow.
Detach drive (1) from rubber mounts (3).
Detach flex shaft (2) from drive (1).



Installation:

Slide short flex shaft (1) into longitudinal seat adjustment gearing square.

Bend long flex shaft (2) upwards and slide into longitudinal seat adjustment gearing.

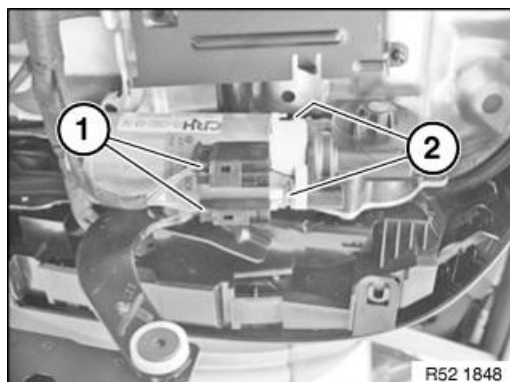
Clip motor and flex shafts into carrier plate.

Make sure flex shafts are correctly seated in gearboxes.



Necessary preliminary tasks:

- Remove [front seat](#)



Unlock plug connections (1) and disconnect.

Unfasten screws (2).

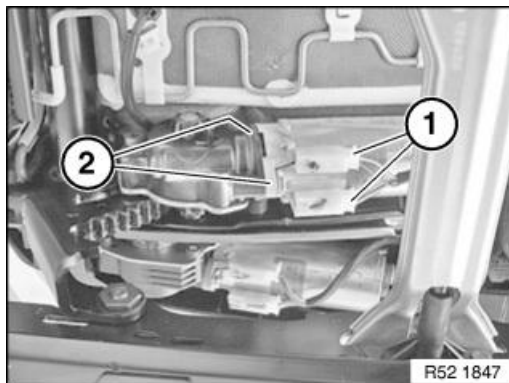
Installation:

Make sure drive shaft is correctly seated in gearbox.



Necessary preliminary tasks:

- Remove [front seat](#)



Unlock plug connections (1) and disconnect.

Unfasten screws (2).

Remove seat height adjustment drive unit.

Installation note:

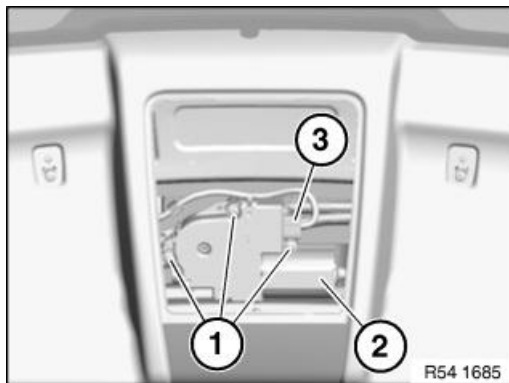
Make sure drive shaft is correctly seated in gearbox.

67 61 005 Replacing electric motor with gearbox (front) for operation of slide/tilt sunroof



Necessary preliminary work:

- Remove [roof switch cluster](#)



Note:

Secure electric motor with gearbox (2) from falling out.

Release screws (1).

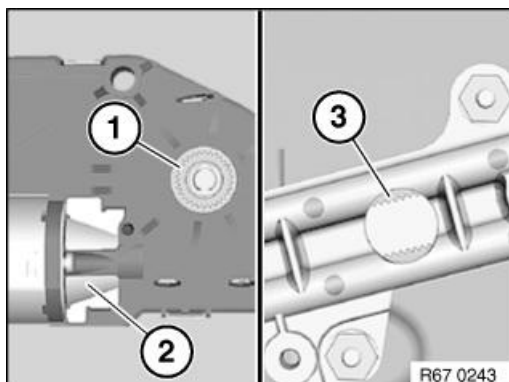
Tightening torque [54 13 01AZ](#).

Note:

Screws (1) are microencapsulated and must be replaced.

Remove electric motor with gearbox (2).

Unlock plug connection (3) and disconnect.



Installation note:

Position drive with gearing straight.

Insert gear (1) of electric motor with gearbox for operation of slide/tilt sunroof (2) exactly in gearing (3).



Installation note:

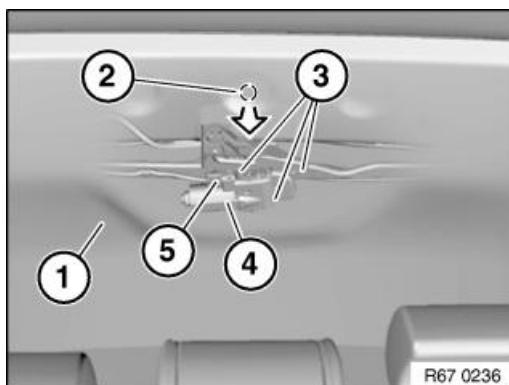
- Initialise [slide/tilt sunroof](#).

67 61 007 Replacing electric motor with gearbox (rear) to operate the slide/tilt sunroof



Necessary preliminary work:

- Remove [rear grab handles](#)
- Remove [trim panel for rear left and right roof pillar \(C-pillar\)](#)
- Remove [left and right interior lights](#)
- Detach edge protection in area of headliner



Important!

Do not under any circumstance kink headliner (1).

Unclip headliner (1) at retaining point (2) towards bottom and lower.

Note:

Secure electric motor drive with gearbox (4) from falling out.

Release screws (3).

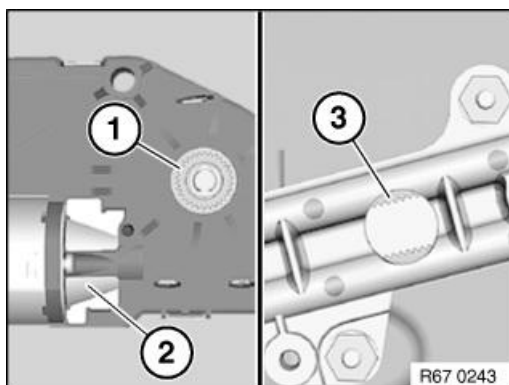
Tightening torque [54 13 01AZ](#).

Note:

Screws (3) are microencapsulated and must be replaced.

Remove electric motor with gearbox (4).

Unlock plug connection (5) and disconnect.



Installation note:

Position drive with gearing straight.

Insert gear wheel (1) of electric motor with gearbox (2) exactly in gearing (3).



Installation note:

- Initialise [slide/tilt sunroof](#).

**Warning!**

Risk of injury!

There is no anti-trapping protection during initialization.



An **initialization** must be performed:

- In the event of malfunctions, e.g. no one-touch control function, no opening or if available no comfort function is possible
- After the power window drive has been replaced
- After work is carried out on the power window mechanism
- If necessary, after an open circuit, e.g. disconnection of the battery or disconnection of the power supply to the door
- After the door window glass has been removed and installed or replaced
- After adjustment work on the door window glass
- After adjustment work on the convertible top
- After replacement of seals



Initialization is performed on the power window switch of the relevant door.

Requirements for correct initialization:

- Terminal "R" activated
- Doors and windows closed
- Sufficient battery voltage; connect charger if necessary

Initialization comprises:

- Erasure of initialization
- Reinitialization



Erasure of initialization:

- Open door window glass fully
- Actuate power window switch in "Open" position (second switch position) and hold down for between 15 and 20 seconds

This clears initialization of the power window. Anti-trapping protection and one-touch control (toll) function are inactive.

Check whether one-touch control (toll) function is inactive, otherwise repeat procedure.

Reinitialization:

- Close door window completely
- After upper end position is reached, interrupt actuation of power window switch and then hold switch again for approx. 1 second in "Close" position (second switch position)
- Open door window glass fully
- After upper end position is reached, interrupt actuation of power window switch and then hold switch again for approx. 1 second in "Open" position (second switch position)
- Close door window completely
- After upper end position is reached, interrupt actuation of power window switch and then hold switch again for approx. 1 second in "Close" position (second switch position)

This completes initialization.

Note:

Carry out function check (one-touch control function, anti-trapping protection and, if necessary, comfort function).



Note:

The power window can also be initialized in the BMW diagnosis system by means of a diagnosis job.

67 62 000 Removing and installing or replacing flat motor for front left or right power window regulator



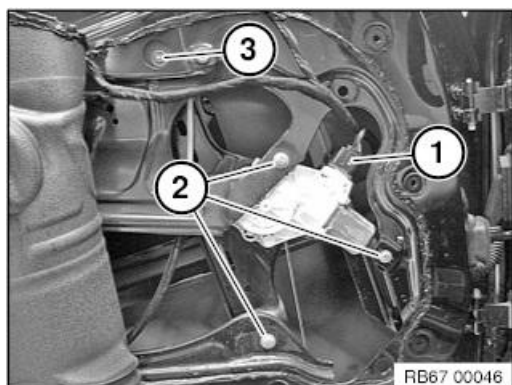
Work for E90, E91 is described in:

[Removing and installing/replacing flat motor for power window regulator](#)



Necessary preliminary tasks:

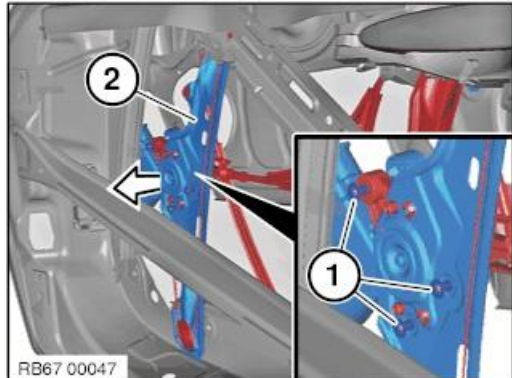
- Detach [sound insulation](#) from front door in working area



Unlock and disconnect connector (1) from flat motor.

Unfasten screws (2).

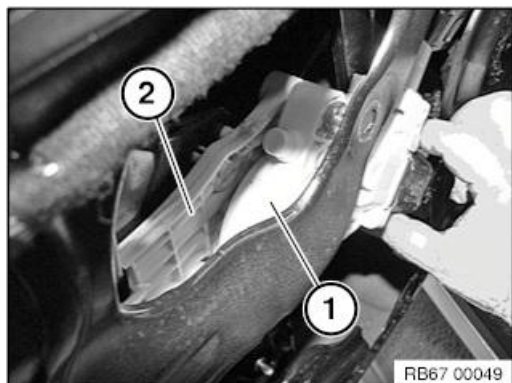
Loosen nut (3).



Release screws (1).

Tightening torque [67 62 1AZ](#).

Press the guide rail (2) for power window regulator toward outer door panel.



Remove flat motor (1) from cable housing (2) and feed out downward. *Installation note:*

Fit flat motor for power windows (1) exactly on gearing of power windows.

Carry out function check (one-touch function, anti-trapping protection and, if necessary, comfort function).

**Replacement:**

A normalisation must be carried out in order to activate anti-trap mechanism.

Operating procedure for normalisation:

- Operate corresponding power window switch in "Close" setting.
- Once the upper end position has been reached, hold power window switch down for approx. 1 second more.

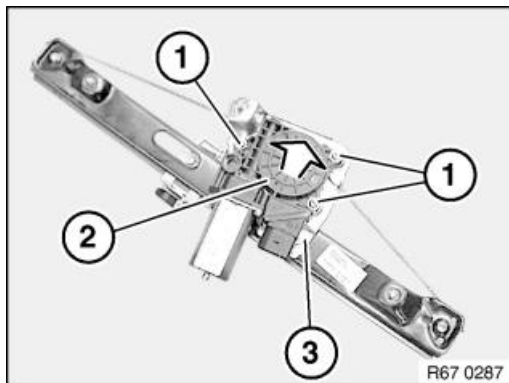
Normalisation is thus completed.

67 62 020 xRemoving and installing/replacing flat motor for rear left or right power windows



Necessary preliminary tasks:

- Remove rear [power window regulator](#)



Release screws (1), tightening torque [51 35 1AZ](#).

Detach flat motor for power windows (2) in direction of arrow from power windows (3).

Installation note:

Fit flat motor for power windows (2) exactly on gearing of power windows.



Replacement:

A normalisation must be carried out in order to activate anti-trap mechanism.

Operating procedure for normalisation:

- Operate corresponding power window switch in "Close" setting.
- Once the upper end position has been reached, hold power window switch down for approx. 1 second more.

If necessary, repeat procedure again.

Normalisation is thus completed.



Note:

Carry out function check (one-touch function, anti-trapping protection and, if necessary, comfort function).



This operation is described in:

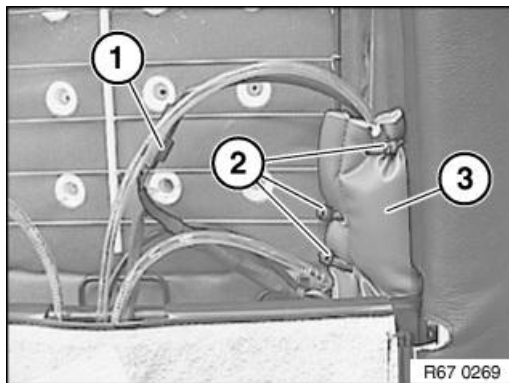
Removing complete [console for windscreen wiper system](#).

67 66 010 Removing and installing/replacing lumbar support drive mechanism on front seat, left or right



Necessary preliminary tasks:

- Remove [rear panel on front seat backrest](#)



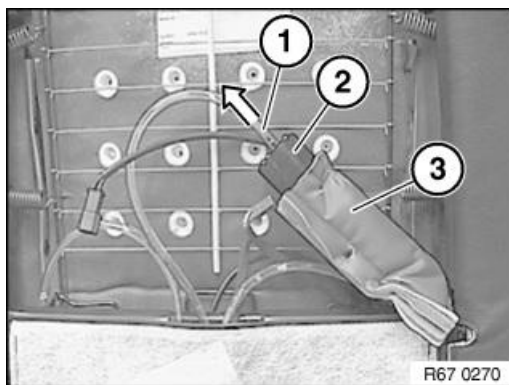
Disconnect plug connection (1).

Cut through cable ties (2).

Remove drive unit for lumbar support (3) with jacket from backrest frame.

Installation:

Make sure drive unit for lumbar support (3) is in correct installation position.



Detach hose (1) from drive unit for lumbar support (2).

Note:

Gently heat hose (1) if stuck.

Installation:

Hose (1) of drive unit for lumbar support (2) must not be kinked.

Pull jacket (3) off drive unit for lumbar support (2).

Remove drive unit for lumbar support (2).